



Fig. 1

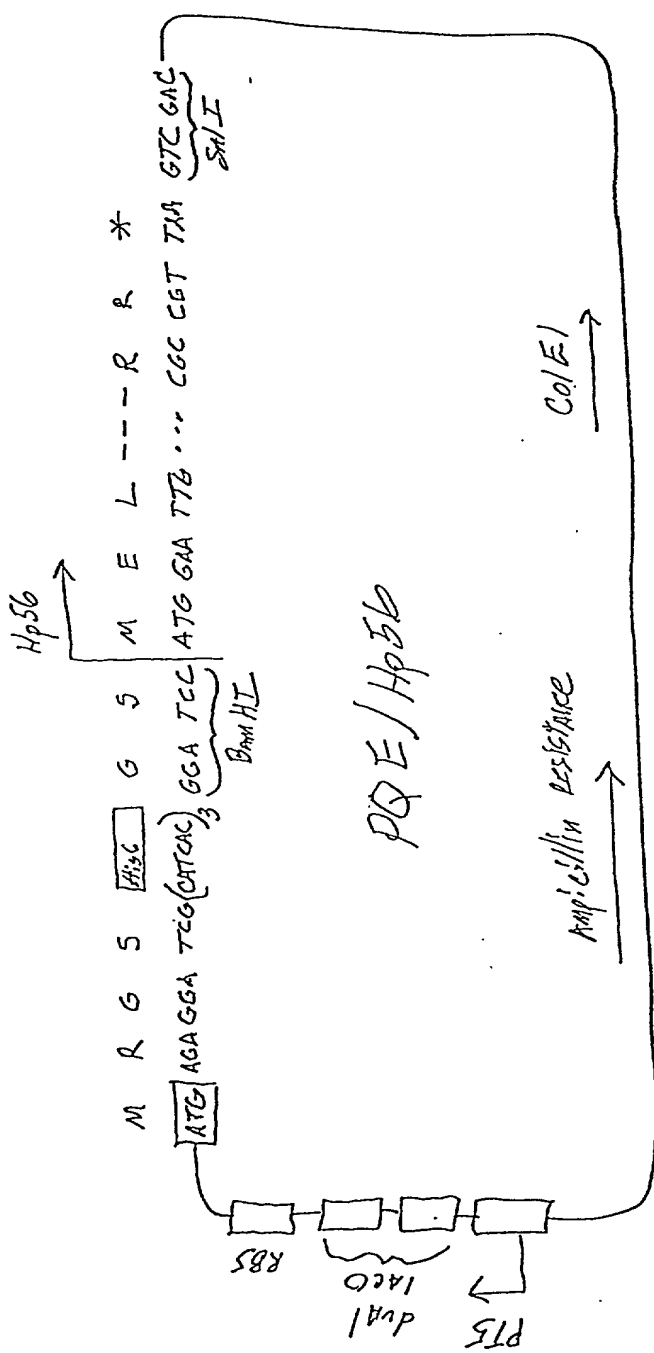


FIG. 2

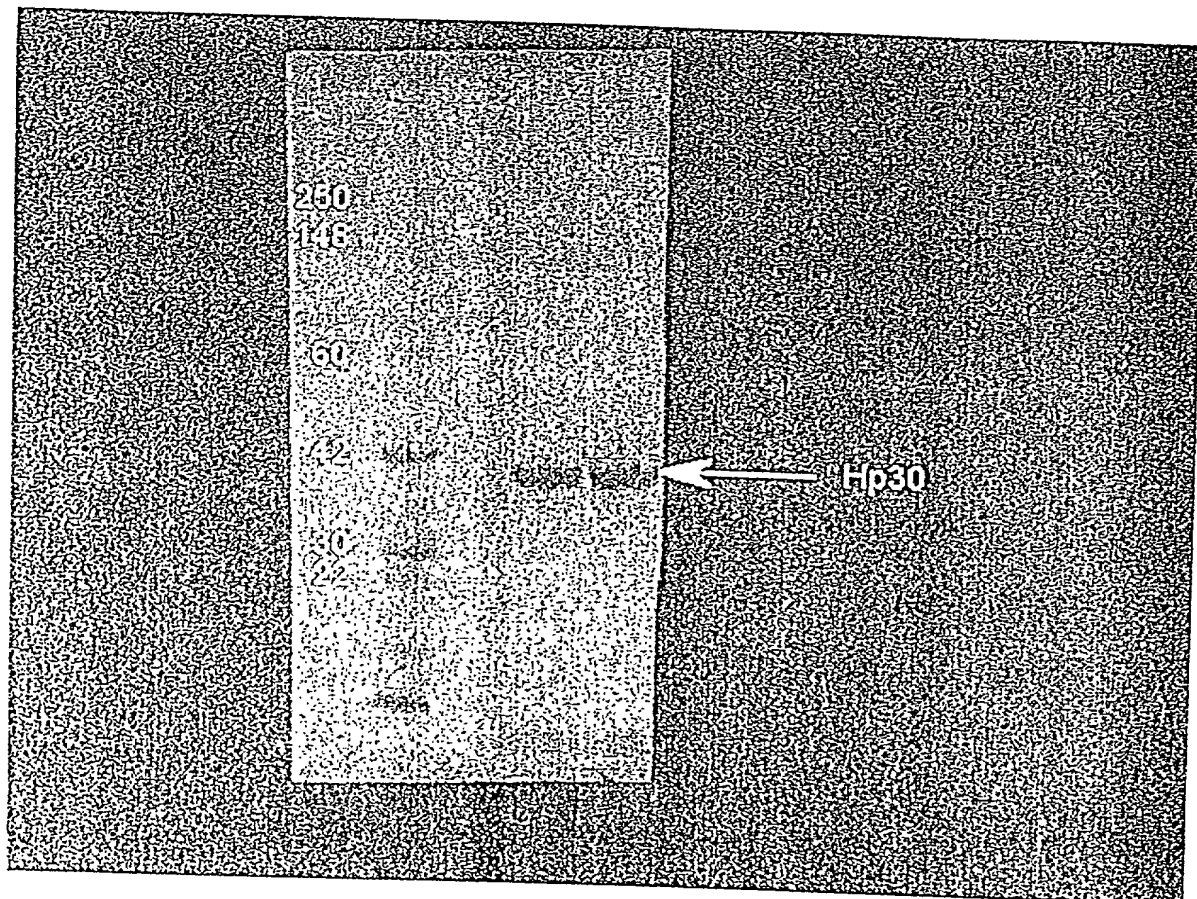


FIG. 3

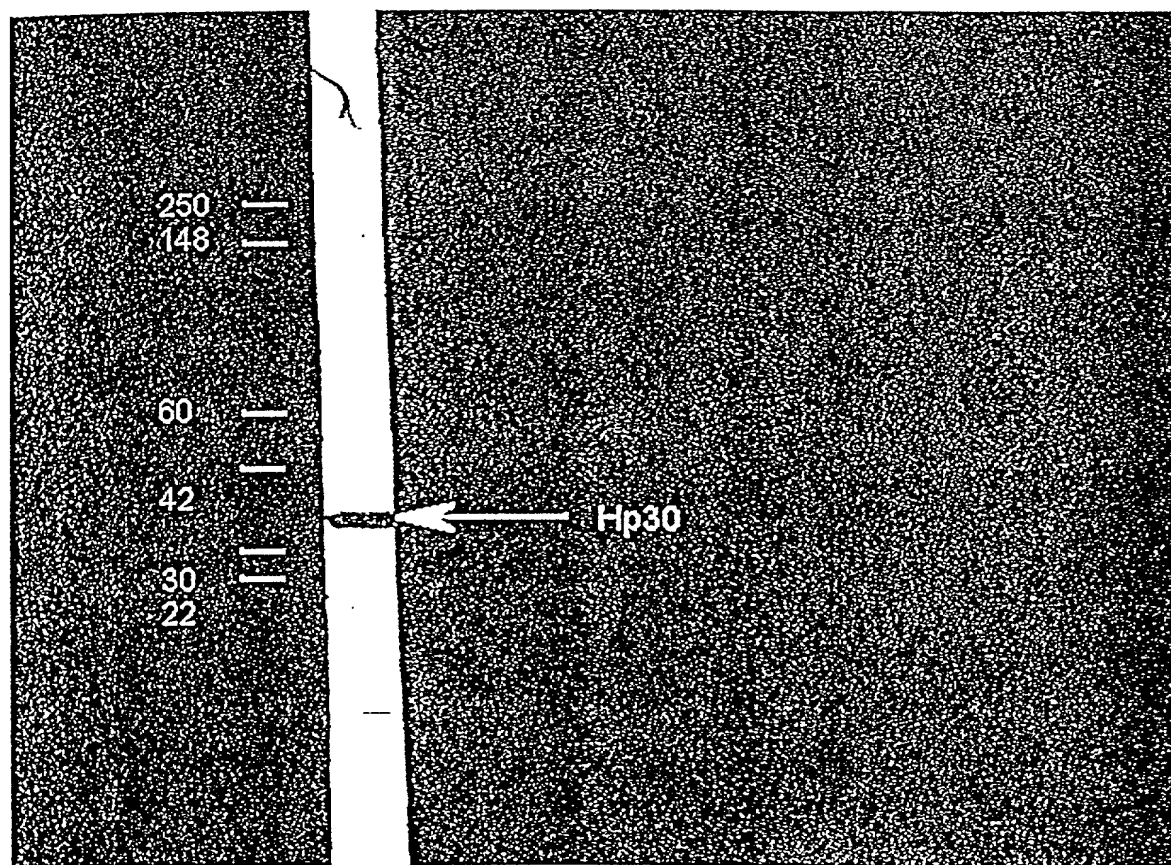


FIG. 4

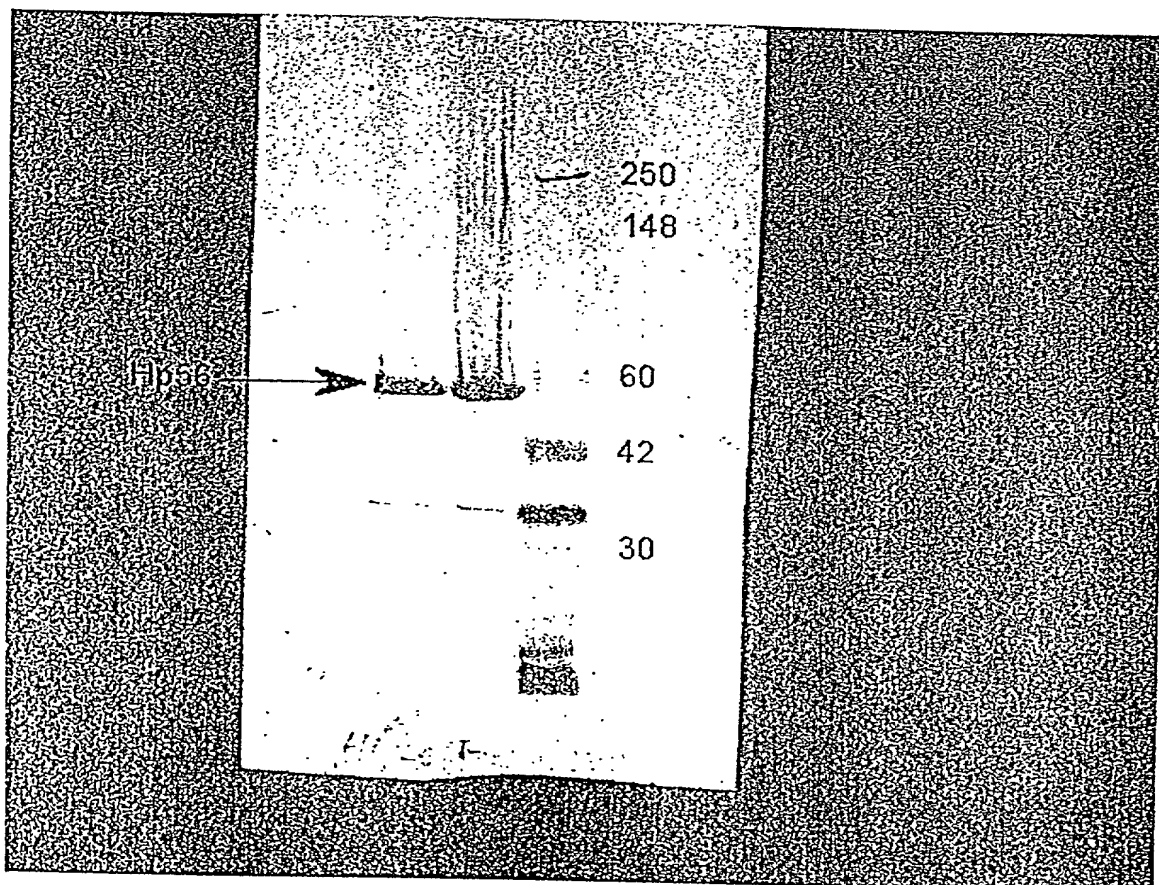


FIG. 5

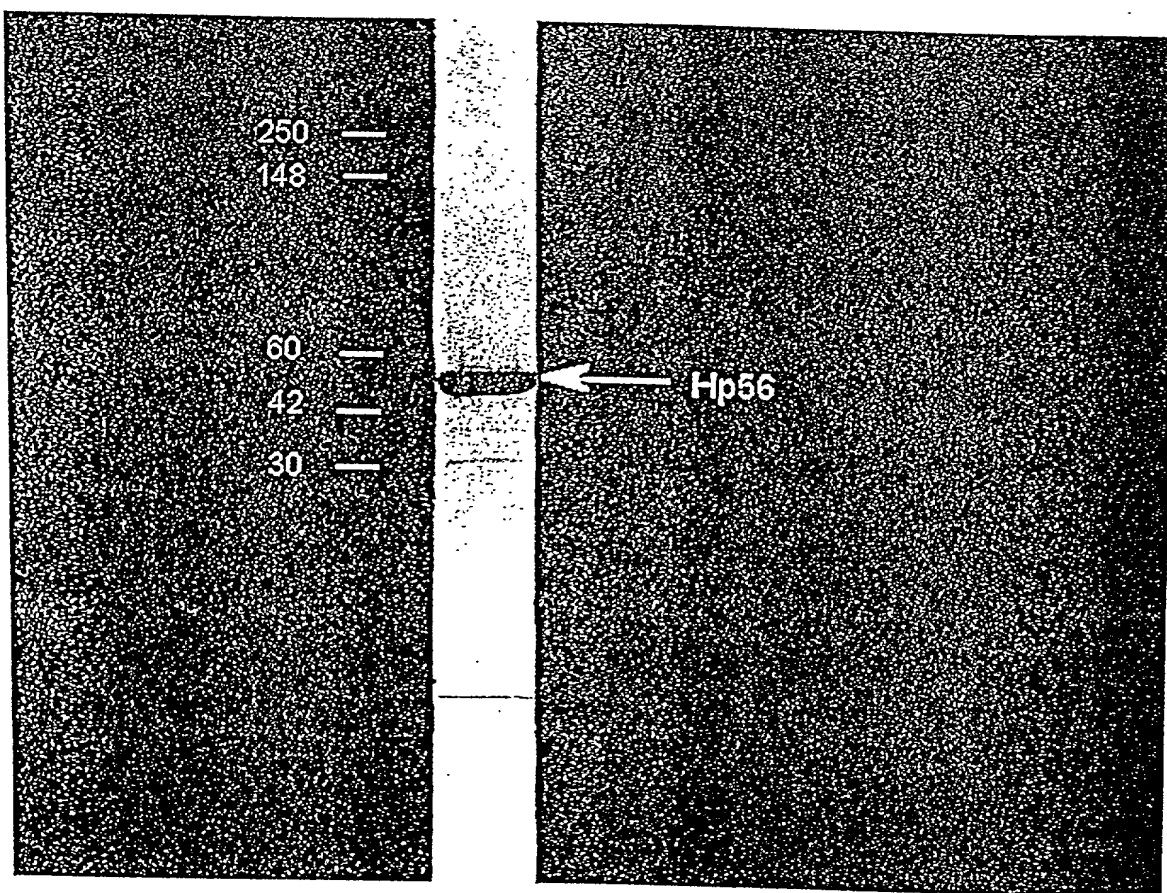


FIG. 6

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atg gaa ttg aat caa cca cca ctc cct aca gaa att gat ggt gac gct 48 Met Glu Leu Asn Gln Pro Pro Leu Pro Thr 10 Glu Ile Asp Gly Asp Ala 15	1
tat cat aag ccg agt ttt aat gat ttg ggc tta aaa gaa tcg gtt tta 96 Tyr His Lys Pro Ser Phe Asn Asp Leu Gly Leu Lys Glu Ser Val Leu 20 25 30	
aaa tcc gtt tat gaa gcc ggc ttc act tcc cca agc ccc att caa gaa 144 Lys Ser Val Tyr Glu Ala Gly Phe Thr Ser Pro Ser Pro Ile Gln Glu 35 40 45	
aag gcc att ccg gct gtt ttg caa ggc cga gat gtc atc gca caa gcc 192 Lys Ala Ile Pro Ala Val Leu Gln Gly Arg Asp Val Ile Ala Gln Ala 50 55 60	
caa aca ggc aca gga aaa acc gcc gct ttc gct ctg ccc att atc aac 240 Gln Thr Gly Thr Gly Lys Thr Ala Ala Phe Ala Leu Pro Ile Ile Asn 65 70 75 80	
aac ctt aaa aac aac cac acc ata gaa gcc cta gtg atc acg ccc acc 288 Asn Leu Lys Asn Asn His Thr Ile Glu Ala Leu Val Ile Thr Pro Thr 85 90 95	
aga gaa tta gcc atg caa att agc gat gag att ttc aaa ttg ggc aaa 336 Arg Glu Leu Ala Met Gln Ile Ser Asp Glu Ile Phe Lys Leu Gly Lys 100 105 110	
cac acc agg act aaa acc gtg tgc gtg tat gga ggc cag agc gtt aaa 384 His Thr Arg Thr Lys Thr Val Cys Val Tyr Gly Gly Gln Ser Val Lys 115 120 125	
aag caa tgc gaa ttc att aag aaa aat ccc caa gtg atg atc gct aca 432 Lys Gln Cys Glu Phe Ile Lys Lys Asn Pro Gln Val Met Ile Ala Thr 130 135 140	
cca gga agg ctg ctc gat cac tta aaa aac gaa cgc atc cat aaa ttt 480 Pro Gly Arg Leu Leu Asp His Leu Lys Asn Glu Arg Ile His Lys Phe 145 150 155 160	
gtg cct aaa gtg gtc gtt tta gat gaa agc gat gaa atg ctg gat atg 528 Val Pro Lys Val Val Val Leu Asp Glu Ser Asp Glu Met Leu Asp Met 165 170 175	
ggg ttt tta gac gat att gaa gag att ttt gac tac ctc cct agc gaa 576 Gly Phe Leu Asp Asp Ile Glu Glu Ile Phe Asp Tyr Leu Pro Ser Glu 180 185 190	
gcg cag att ttg ctt ttt tca gcc acg atg cca gag ccg att aaa aga 624 Ala Gln Ile Leu Leu Phe Ser Ala Thr Met Pro Glu Pro Ile Lys Arg 195 200 205	
cta gcg gat aag att tta gaa aac cct att aaa atc cat atc gct cct 672 Leu Ala Asp Lys Ile Leu Glu Asn Pro Ile Lys Ile His Ile Ala Pro 210 215 220	
tct aat atc act aac acc gac atc acc caa cgc ttt tat gtg atc aat 720 Ser Asn Ile Thr Asn Thr Asp Ile Thr Gln Arg Phe Tyr Val Ile Asn 225 230 235 240	
gag cat gag agg gcc gaa gcg atc atg cgc ctt tta gac acc caa gca 768 Glu His Glu Arg Ala Glu Ala Ile Met Arg Leu Leu Asp Thr Gln Ala 245 250 255	
ccc aaa aag agc att gtt ttc acg cgc act aaa aaa gaa gcc gat gaa 816 Pro Lys Lys Ser Ile Val Phe Thr Arg Thr Lys Lys Glu Ala Asp Glu 260 265 270	

FIG. 7a

ttg	cac	caa	ttc	ctt	gct	tct	aaa	aat	tac	aaa	agc	acc	gcc	ttg	cat	864
Leu	His	Gln	Phe	Leu	Ala	Ser	Lys	Asn	Tyr	Lys	Ser	Thr	Ala	Leu	His	
		275					280					285				
ggg	gat	atg	gat	caa	agg	gat	cgg	cgc	tct	tct	atc	atg	gcg	ttt	aaa	912
Gly	Asp	Met	Asp	Gln	Arg	Asp	Arg	Arg	Ser	Ser	Ile	Met	Ala	Phe	Lys	
	290					295					300					
aaa	aat	gac	gct	gat	gtg	ttg	gtg	gct	aca	gat	gtg	gcg	agt	cgt	ggg	960
Lys	Asn	Asp	Ala	Asp	Val	Leu	Val	Ala	Thr	Asp	Val	Ala	Ser	Arg	Gly	
	305				310					315					320	
cta	gat	att	agc	ggg	gta	agc	cat	gtg	ttt	aat	tac	cac	ttg	ccc	cta	1008
Leu	Asp	Ile	Ser	Gly	Val	Ser	His	Val	Phe	Asn	Tyr	His	Leu	Pro	Leu	
				325					330					335		
aac	act	gag	agc	tat	atc	cat	cgc	atc	ggg	aga	acc	ggg	cga	gcg	ggc	1056
Asn	Thr	Glu	Ser	Tyr	Ile	His	Arg	Ile	Gly	Arg	Thr	Gly	Arg	Ala	Gly	
			340					345					350			
aaa	aaa	ggc	atg	gcg	atc	act	tta	gta	acc	cct	tta	gaa	tac	aaa	gag	1104
Lys	Lys	Gly	Met	Ala	Ile	Thr	Leu	Val	Thr	Pro	Leu	Glu	Tyr	Lys	Glu	
		355					360					365				
ctt	tta	cgc	atg	caa	aaa	gaa	att	gat	tca	gag	att	gaa	ctt	ttt	gaa	1152
Leu	Leu	Arg	Met	Gln	Lys	Glu	Ile	Asp	Ser	Glu	Ile	Glu	Leu	Phe	Glu	
		370				375					380					
atc	ccc	acc	att	aac	gaa	aat	cag	atc	atc	aaa	acc	ttg	cat	gac	gct	1200
Ile	Pro	Thr	Ile	Asn	Glu	Asn	Gln	Ile	Ile	Lys	Thr	Leu	His	Asp	Ala	
					390					395					400	
aaa	gtg	tct	gaa	ggg	atc	atc	agc	ctt	tat	gaa	cag	ctt	acc	gaa	att	1248
Lys	Val	Ser	Glu	Gly	Ile	Ile	Ser	Leu	Tyr	Glu	Gln	Leu	Thr	Glu	Ile	
				405					410					415		
ttt	gag	cgc	tct	caa	ttg	gtt	tta	aaa	ctt	ttg	agt	ttg	cag	ttt	gaa	1296
Phe	Glu	Pro	Ser	Gln	Leu	Val	Leu	Lys	Leu	Leu	Ser	Leu	Gln	Phe	Glu	
				420				425					430			
acc	agc	aaa	att	ggc	tta	aac	cag	caa	gaa	att	gac	gcg	att	caa	aac	1344
Thr	Ser	Lys	Ile	Gly	Leu	Asn	Gln	Gln	Glu	Ile	Asp	Ala	Ile	Gln	Asn	
				435			440					445				
cct	aaa	gaa	aaa	acg	cca	aaa	ccc	tct	aac	aaa	aaa	acg	ccc	caa	cat	1392
Pro	Lys	Glu	Lys	Thr	Pro	Lys	Pro	Ser	Asn	Lys	Lys	Thr	Pro	Gln	His	
		450				455					460					
gag	cga	gcg	cgt	tct	ttc	aaa	aag	ggt	cag	cac	aga	gac	aga	cac	cct	1440
Glu	Arg	Ala	Arg	Ser	Phe	Lys	Lys	Gly	Gln	His	Arg	Asp	Arg	His	Pro	
	465				470					475					480	
aaa	aca	aac	cat	tat	tct	aaa	aaa	ccc	aaa	cgc	cgt					1476
Lys	Thr	Asn	His	Tyr	Ser	Lys	Lys	Pro	Lys	Arg	Arg					
				485					490							

FIG. 7b



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atg gca tac aaa tat gat aga gac ttg gaa ttt tta aag caa ttg gaa	48
Met Ala Tyr Lys Tyr Asp Arg Asp Leu Glu Phe Leu Lys Gln Leu Glu	
1 5 10 15	
tct agt gat tta ttg gat ttg ttt gag gtg ctt gtt ttt ggt aaa gac	96
Ser Ser Asp Leu Leu Asp Leu Phe Glu Val Leu Val Phe Gly Lys Asp	
20 25 30	
ggc gaa aaa aga cac aat gaa aaa ctg acc agc tcc ata gaa tac aaa	144
Gly Glu Lys Arg His Asn Glu Lys Leu Thr Ser Ser Ile Glu Tyr Lys	
35 40 45	
agg cat ggc gat gat tac gct aaa tac gca gaa aga atc gct gaa gag	192
Arg His Gly Asp Asp Tyr Ala Lys Tyr Ala Glu Arg Ile Ala Glu Glu	
50 55 60	
ttg caa tac tat ggg agc aat agt ttt gcg agt ttc att aaa ggc gaa	240
Leu Gln Tyr Tyr Gly Ser Asn Ser Phe Ala Ser Phe Ile Lys Gly Glu	
65 70 75 80	
gga gtc tta tac aaa gag att tta tgc gat gtg tgc gat aaa tta aag	288
Gly Val Leu Tyr Lys Glu Ile Leu Cys Asp Val Cys Asp Lys Leu Lys	
85 90 95	
gtc aat tac aac aag aaa act gaa acg act tta att gaa caa aac atg	336
Val Asn Tyr Asn Lys Lys Thr Glu Thr Thr Leu Ile Glu Gln Asn Met	
100 105 110	
ctt tct aaa atc tta gaa aga agt ttg gaa gaa atg gat gat gaa gaa	384
Leu Ser Lys Ile Leu Glu Arg Ser Leu Glu Glu Met Asp Asp Glu Glu	
115 120 125	
gtg aaa gaa atg tgc gat gaa tta tcc ata aaa aac acg gac aat tta	432
Val Lys Glu Met Cys Asp Glu Leu Ser Ile Lys Asn Thr Asp Asn Leu	
130 135 140	
aac aga caa gcc tta agc gcg gcg act tta acg ctg ttt aaa atg ggg	480
Asn Arg Gln Ala Leu Ser Ala Ala Thr Leu Thr Leu Phe Lys Met Gly	
145 150 155 160	
ggt ttt aaa tct tat caa tta gct gtc att gtt gcg aat gcg gtc gca	528
Gly Phe Lys Ser Tyr Gln Leu Ala Val Ile Val Ala Asn Ala Val Ala	
165 170 175	
aaa acc att cta ggg cgt ggt tta tcg ctt gcg ggc aat cag gtg ctt	576
Lys Thr Ile Leu Gly Arg Gly Leu Ser Leu Ala Gly Asn Gln Val Leu	
180 185 190	
aca aga act ctg agc ttt tta aca ggt cct gtt ggc tgg atc att aca	624
Thr Arg Thr Leu Ser Phe Leu Thr Gly Pro Val Gly Trp Ile Ile Thr	
195 200 205	
ggc gta tgg aca gcg att gat att gca ggg ccg gct tat agg gta acc	672
Gly Val Trp Thr Ala Ile Asp Ile Ala Gly Pro Ala Tyr Arg Val Thr	
210 215 220	
ata ccg gca tgc att gtg gtt gcc act tta cgc cta aaa aca cag caa	720
Ile Pro Ala Cys Ile Val Val Ala Thr Leu Arg Leu Lys Thr Gln Gln	
225 230 235 240	
gcc aat gga gat aag aag tcg ttg caa ata gaa tcc att	759
Ala Asn Gly Asp Lys Lys Ser Leu Gln Ile Glu Ser Ile	
245 250	

FIG. 8

# Protection Against Gastric *H. pylori* Colonization in Mice Conferred by Subcutaneous Immunization with Recombinant Hp30

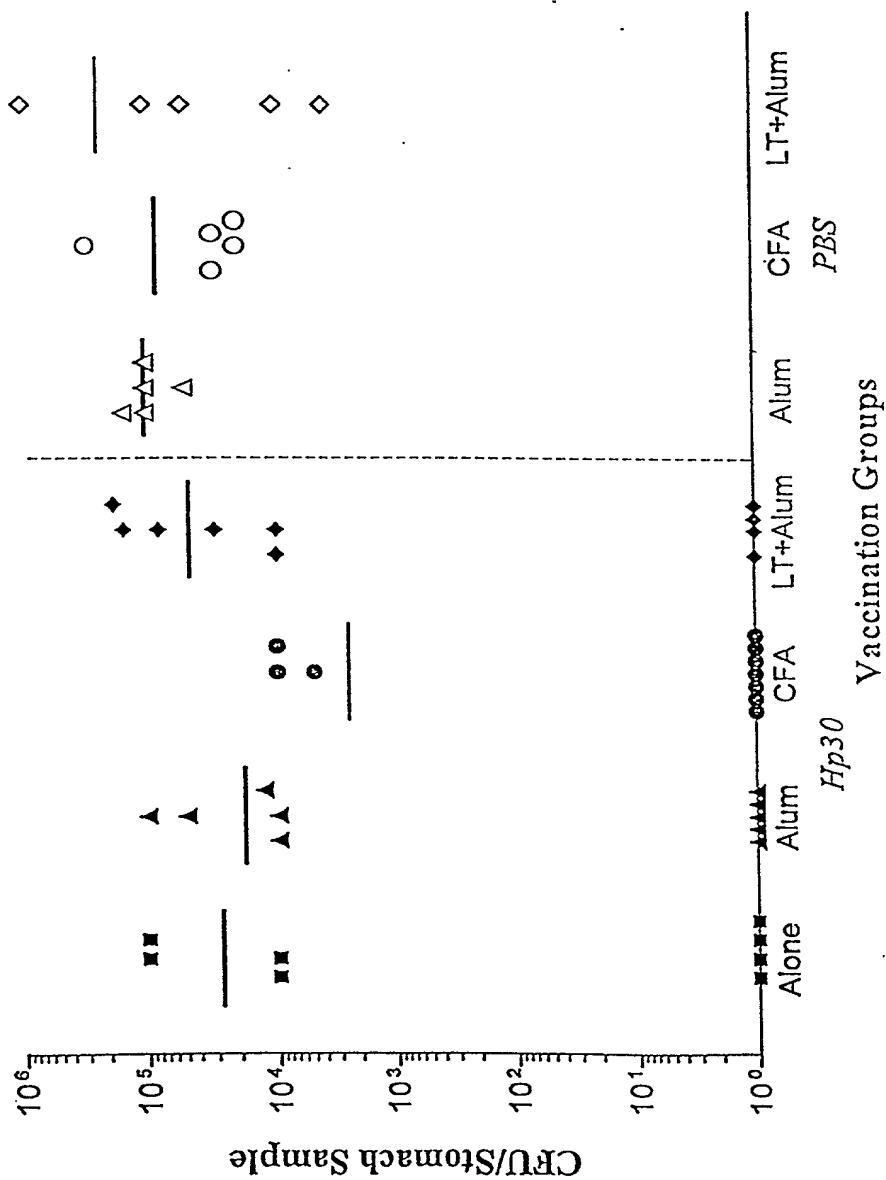


FIG. 9

Protection Against Gastric *H. pylori* Colonization in Mice Conferred  
by Oral Immunization with *Helicobacter* Lysate or Subunits Vaccine

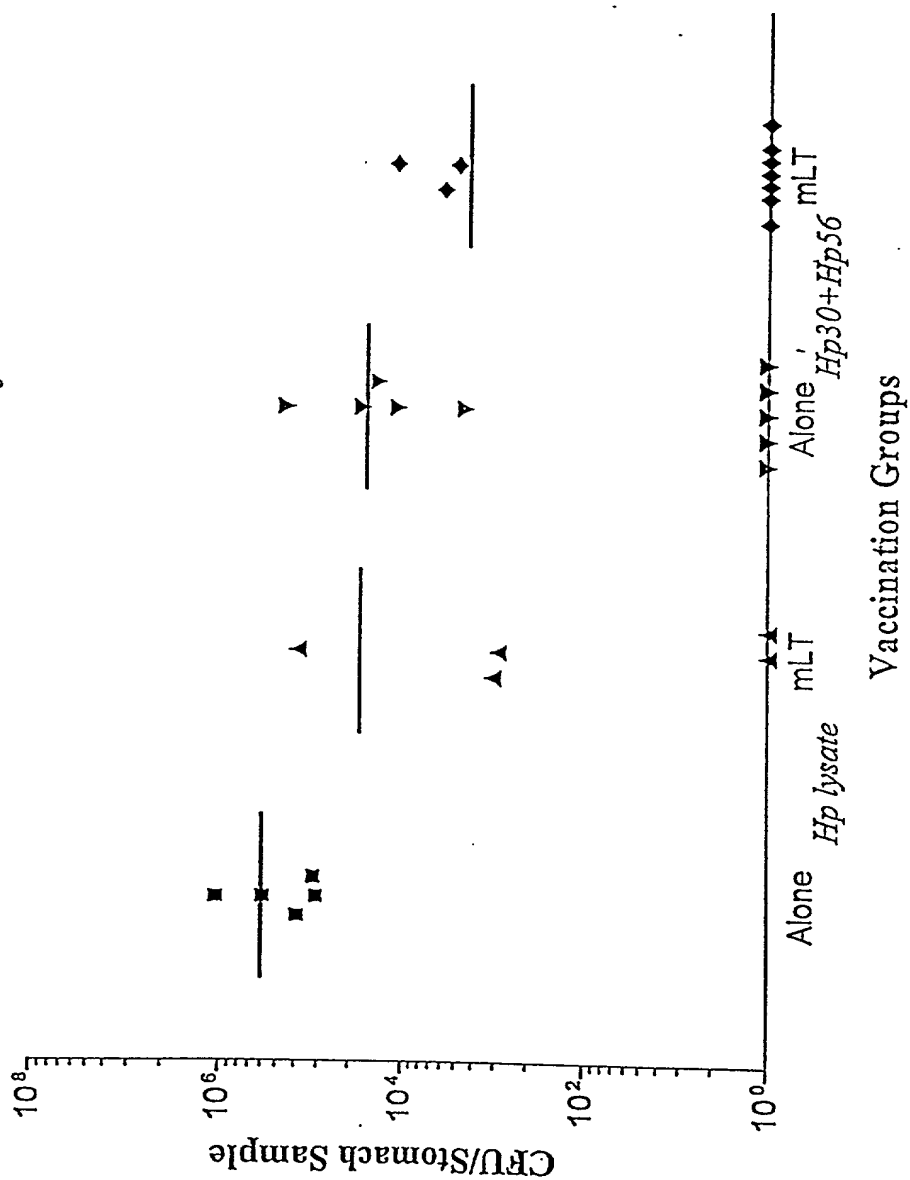


FIG. 10